AMENDMENTS TO THE CLAIMS

1.-7. (Cancelled)

8. (Currently Amended) An apparatus for converting nitric oxide in exhaust gas into nitrogen dioxide, comprising:

a plasma reactor having a plurality of dielectrically-coated electrodes defining at least one reaction zone ~~receiving~~ configured to receive the gas, said dielectrically-coated electrodes each having an electrode plate completely enclosed within ~~and~~ a fluoropolymeric shell~~substance applied to said electrode plate~~; and

a voltage supply connected to each of the dielectrically-coated electrodes to provide a voltage across the dielectrically-coated electrodes.

9. (Original) An apparatus in accordance with claim 8, further comprising a scrubber.

10. (Original) An apparatus in accordance with claim 8, further comprising an injector ~~introducing~~ configured to introduce ethanol into said gas.

11. (Original) An apparatus in accordance with claim 8, further comprising an inlet and an outlet, each connected to the plasma reactor.

12. (Original) An apparatus in accordance with claim 8, further comprising an ethanol bath through which at least a portion of the gas is diverted.

13. (Currently Amended) An apparatus in accordance with claim 8, wherein the voltage applied across the dielectrically-coated electrodes creates an electric field whose strength is above the critical field strength of the gas, but not so high as to establish a condition conducive to sustain arcing between the dielectrically-coated electrodes.

14. (Currently Amended) An apparatus in accordance with claim 8, wherein the voltage applied across the dielectrically-coated electrodes creates a multitude of short-lived current filaments within the gas.

15. (Currently Amended) An apparatus in accordance with claim 8, wherein at least one reactive species ~~are~~ is generated by the plasma reactor, to react with said nitric oxides.

16. (Currently Amended) An apparatus in accordance with claim 915, wherein the at least one reactive species ~~are~~ is electrons for promoting primarily electron-molecule collisions in the gas.

17. (Currently Amended) An apparatus in accordance with claim 8, comprising at least three dielectrically-coated electrodes arranged in parallel formation defining at least two gaps therebetween through which the gas passes.

18. (NEW) The apparatus in accordance with claim 8, wherein the fluoropolymeric shell is selected from the group consisting of TEFLON®, TEFLON® PFA, and DYKOR®.

19. (NEW) The apparatus in accordance with claim 8, wherein the apparatus for converts approximately 90% of the nitric oxide in exhaust gas into nitrogen dioxide.